

ARTICLE 34

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## Claims

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of:
- 5 a) a nucleotide sequence encoding the IGS3 polypeptide according to SEQ ID NO: 2;
- b) a nucleotide sequence encoding the polypeptide encoded by the DNA insert contained in the deposit no. CBS 102196 at the Centraalbureau voor Schimmelcultures at Baarn (The Netherlands), in particular a nucleotide
- 10 sequence corresponding to the SEQ ID NO: 1;
- c) a nucleotide sequence having at least 80 % (preferably at least 90%) sequence identity over its entire length to the nucleotide sequence of (a) or (b);
- d) a nucleotide sequence which is complimentary to the nucleotide sequence of (a) or (b) or (c).
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2. The polynucleotide of claim 1 wherein said polynucleotide comprises the nucleotide sequence contained in SEQ ID NO:1 encoding the IGS3 polypeptide of SEQ ID NO:2.
3. The polynucleotide of claim 1 wherein said polynucleotide comprises a nucleotide
- 20 sequence that is at least 80% identical to that of SEQ ID NO:1 over its entire length.
4. The polynucleotide of claim 3 which is the polynucleotide of SEQ ID NO:1.
5. The polynucleotide of claim 1-4 which is DNA or RNA.
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6. A DNA or RNA molecule comprising an expression vector, wherein said expression vector is capable of producing an IGS3 polypeptide comprising an amino acid sequence, which has at least 80% identity with the polypeptide of SEQ ID NO:2 when said expression vector is present in a compatible host cell.
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7. A host cell comprising the expression vector of claim 6.
8. A host cell according to claim 7 which is a yeast cell
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9. A host cell according to claim 7 which is an animal cell

10. IGS3 receptor membrane preparation derived from a cell according to claim 7-9.
11. A process for producing an IGS3 polypeptide comprising culturing a host of claim 7 under conditions sufficient for the production of said polypeptide and recovering the polypeptide from the culture.
12. A process for producing a cell which produces an IGS3 polypeptide thereof comprising transforming or transfecting a cell with the expression vector of claim 6 such that the cell, under appropriate culture conditions, is capable of producing an IGS3 polypeptide.
13. An IGS3 polypeptide comprising an amino acid sequence which is at least 80% identical to the amino acid sequence of SEQ ID NO:2 over its entire length.
14. The polypeptide of claim 13 which comprises the amino acid sequence of SEQ ID NO:2.
15. An antibody immunospecific for the IGS3 polypeptide of SEQ ID NO:2 or a Variant thereof.
16. A method for the treatment of a subject suffering from a disease related to expression or activity of the IGS3 polypeptide receptor of claim 13, in need of enhanced activity or expression of the IGS3 polypeptide receptor of claim 13, comprising:
  - (a) administering to the subject a therapeutically effective amount of an agonist to said receptor; and/or
  - (b) providing to the subject an isolated polynucleotide comprising a nucleotide sequence that has at least 80% identity to a nucleotide sequence encoding the IGS3 polypeptide of SEQ ID NO:2 over its entire length; or a nucleotide sequence complementary to said nucleotide sequence in a form so as to effect production of said receptor activity in vivo.
17. A method for the treatment of a subject suffering from a disease related to expression or activity of the IGS3 polypeptide receptor of claim 13, having need to inhibit activity or expression of the IGS3 polypeptide receptor of claim 13, comprising:
  - (a) administering to the subject a therapeutically effective amount of an antagonist to said receptor; and/or
  - (b) administering to the subject a polynucleotide that inhibits the expression of the nucleotide sequence encoding said receptor; and/or

(c) administering to the subject a therapeutically effective amount of a polypeptide that competes with said receptor for its ligand.

18. A process for diagnosing a disease or a susceptibility to a disease in a subject related to expression or activity of the IGS3 polypeptide of claim 13 in a subject comprising:

- (a) determining the presence or absence of a mutation in the nucleotide sequence encoding said IGS3 polypeptide in the genome of said subject; and/or
- (b) analyzing for the presence or amount of the IGS3 polypeptide expression in a sample derived from said subject.

19. A method for identifying agonists to the IGS3 polypeptide of claim 13 comprising:

- (a) contacting a cell which produces a IGS3 polypeptide with a test compound; and
- (b) determining whether the test compound effects a signal generated by activation of the IGS3 polypeptide.

20. An agonist identified by the method of claim 19.

21. A method for identifying antagonists to the IGS3 polypeptide of claim 13 comprising:

- (a) contacting a cell which produces a IGS3 polypeptide with an agonist; and
- (b) determining whether the signal generated by said agonist is diminished in the presence of a candidate compound.

22. An antagonist identified by the method of claim 21.

23. A recombinant host cell produced by a method of claim 12 or a membrane thereof expressing an IGS3 polypeptide.

24. A method of creating a genetically modified non-human animal comprising the steps of:

- a) ligating the coding portion of a polynucleotide consisting essentially of a nucleic acid sequence encoding a protein having the amino acid sequence SEQ ID NO: 2 to a regulatory sequence which is capable of driving high level gene expression or expression in a cell type in which the gene is not normally expressed in said animal; or
- b) engineering the coding portion of a polynucleotide consisting essentially of a nucleic acid sequence encoding a protein having the amino acid sequence SEQ ID NO: 2 and reintroducing said sequence in the genome of said animal in such

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a way that the endogenous gene alleles encoding a protein having the amino acid sequence SEQ ID NO: 2 are fully or partially inactivated.

AMENDED SHEET

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